MYCOTAXON

ISSN (print) 0093-4666 (online) 2154-8889 © 2016. Mycotaxon, Ltd.

January–March 2016—Volume 131, pp. 141–144
http://dx.doi.org/10.5248/131.141

Mirandina uncinata sp. nov. from submerged leaves from Brazil

Patrícia Oliveira Fiuza[1], Josiane Santana Monteiro[1],
Luís Fernando Pascholati Gusmão[1*] & Rafael F. Castañeda-Ruiz[2]

[1] *Universidade Estadual de Feira de Santana, Depto. de Ciências Biológicas, Lab. de Micologia, Avenida Transnordestina s/n, Bairro Novo Horizonte, 44036-900, Feira de Santana, Brazil*
[2] *Inst. de Investigaciones Fundamentales en Agricultura Tropical 'Alejandro de Humboldt', Calle 1 Esq. 2, Santiago de Las Vegas, C. Habana, Cuba, C.P. 17200*
* Correspondence to: *lgusmao@uefs.br*

Abstract — A new species, *Mirandina uncinata*, collected on submerged leaves of *Calophyllum brasiliense* in the Brazilian semiarid region, is described and illustrated. *Mirandina uncinata* is characterized by polyblastic, integrated, terminal, sympodially extended conidiogenous cells and cylindrical-fusiform, uncinate toward the apex, 5–7-septate, pale brown conidia.

Key words — freshwater fungi, conidial fungi, taxonomy

Introduction

An undescribed *Mirandina* species was collected during an investigation of conidial fungi associated with submerged decaying leaves of *Calophyllum brasiliense* in a riparian forest of Chapada Diamantina in Brazil's semiarid region. It is described here as new.

Materials & methods

Samples of submerged leaves of *C. brasiliense* were collected in Piatã, Bahia State, from November 2013 to January 2015. The material was placed in plastic bags and taken to the laboratory and processed according to Castañeda-Ruiz (2005). The samples were washed, placed in Petri dish moist chambers, and stored in a polystyrene box with sterile water plus glycerol for 30 days. Slide mounts were prepared in PVL (polyvinyl alcohol and lactic acid) and measurements were made at a magnification of ×1000. Microphotographs were obtained with an Olympus microscope (model BX51) equipped with bright field and Nomarski interference optics. The specimens and

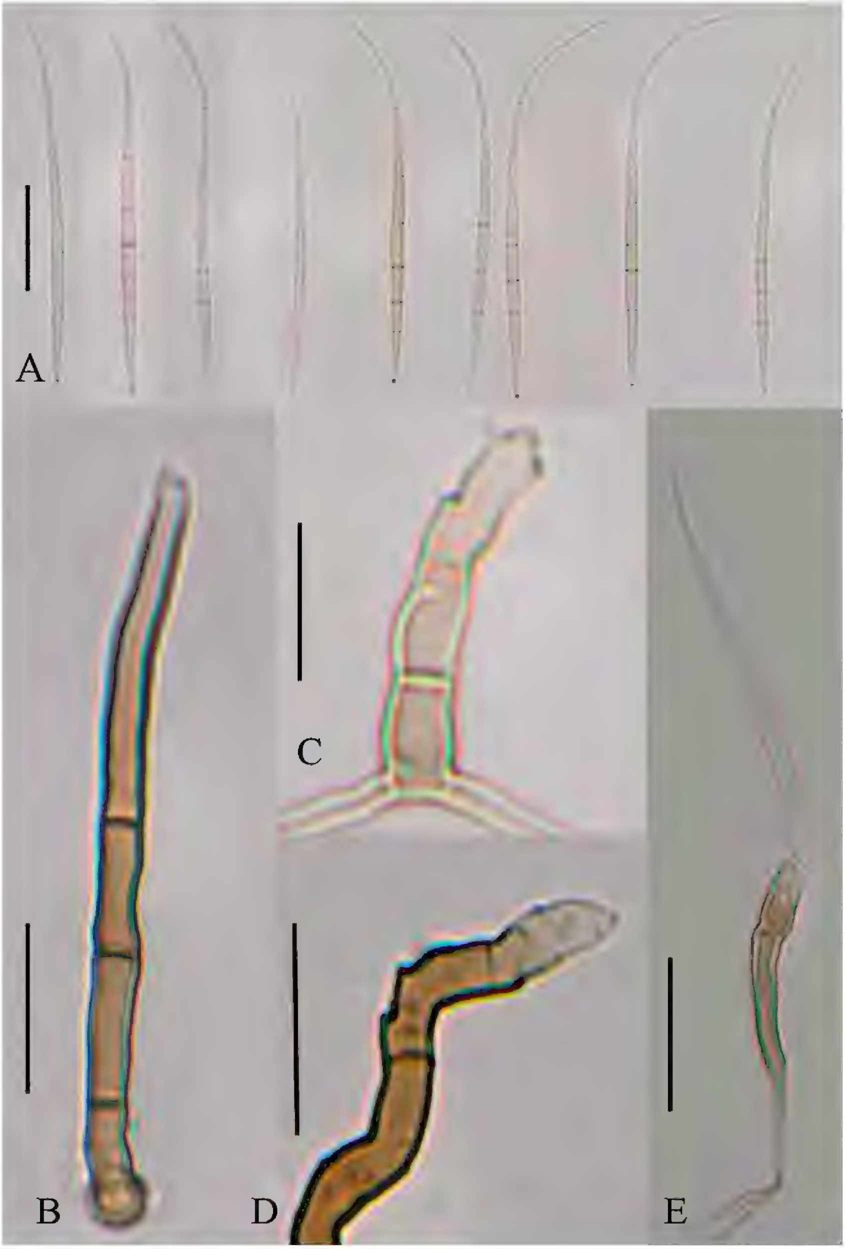

Fig. 1. *Mirandina uncinata* (ex HUEFS 216003). A. Conidia; B–D. Conidiophores and conidiogenous cells; E. Conidiophore and conidium. Bars: A, B, D, E = 20 µm; C = 10 µm.

holotype are deposited in the Herbarium of Universidade Estadual de Feira de Santana, Brazil (HUEFS).

Taxonomy

Mirandina uncinata Fiuza, J.S. Monteiro, R.F. Castañeda & Gusmão, **sp. nov.** FIG. 1
MYCOBANK MB813056

> Differs from *Mirandina flagelliformis* by cylindrical-fusiform, pale brown conidia that are mostly 5–7-septate and uncinate toward the apex.
>
> TYPE: Brazil, Bahia, Piatã, Serra da Tromba, 13°07′S 41°50′W, on submerged decaying leaves of *Calophyllum brasiliense* Cambess. (*Clusiaceae*), 21. XI. 2014, coll. P.O. Fiuza (**Holotype**: HUEFS 216003).
>
> ETYMOLOGY: Latin, *uncinata*, referring to the hooked conidia.

COLONIES on the natural substratum effuse, hairy, hypophyllous, brown. Mycelium mostly immersed in the substrate. CONIDIOPHORES distinct, single, unbranched, cylindrical, straight to geniculate toward the apex, 2–7-septate, brown at the base becoming paler to the apex, smooth, 20–100 × 3–5 µm. Conidial secession schizolytic. CONIDIOGENOUS CELLS polyblastic, integrated, mostly terminal, sometimes intercalary, indeterminate, sympodially elongated, slightly denticulate, brown to pale brown, 20–25 × 3–4 µm, slightly cicatrized at the loci. CONIDIA solitary, cylindrical-fusiform, attenuate, truncate at the base, rostrate, uncinate toward the apex, (1–)5–7(–11)-septate, pale brown, smooth, 40–95 × 2–4.5 µm.

> ADDITIONAL SPECIMENS EXAMINED: **BRAZIL, PARÁ**, Belém, Ilha do Combu, 1°29 S 48°25 W, on submerged decaying twig 29 X. 2011, coll. J.S. Monteiro (HUEFS 216005); Parque Estadual de Utinga, 1°25 S 48°27 W, on submerged decaying twig, 30 VII. 2012, coll. J.S. Monteiro (HUEFS 216004).

NOTE: The genus *Mirandina* G. Arnaud ex Matsush., typified by *M. corticola*, is characterized by distinct, unbranched, brown conidiophores and polyblastic, denticulate, integrated, sympodial elongated conidiogenous cells. The conidia are cylindrical, fusiform to obclavate, unicellular or septate, hyaline, and subhyaline (Kirk 1986). Ten species have been accepted in *Mirandina* (Castañeda-Ruiz & Kendrick 1991, Castañeda-Ruiz et al. 1997, de Hoog 1985, Kirk 1986, Matsushima 1975, 1980, 1987; Matsushima & Matsushima 1996, Paulus et al. 2003, Ma et al. 2015). *Mirandina uncinata* resembles *M. flagelliformis* Matsush., which differs by its narrowly obclavate hyaline conidia that are flagelliform toward the apex and slightly constricted at the septa (Matsushima 1987, Matsushima & Matsushima 1996).

Acknowledgments

The authors express their sincere gratitude to Dr. De-Wei Li and Xiu-Guo Zhang for their critical review of the manuscript. The authors are grateful to Programa de Pesquisa em Biodiversidade do Semiárido (PPBio Semiárido - CNPq/MCTI - Proc. 558317/2009-0) for financial support. POF thanks the 'Coordenação de Aperfeiçoamento de Pessoal de Nível Superior' (CAPES) and the 'Programa de Pós-graduação em Botânica PPGBot/UEFS'. JSM thank the Postdoctoral fellowship (CAPES - 071/2012). RFCR is grateful to 'Ciência sem Fronteiras' and to Cuban Ministry of Agriculture and 'Programa de Salud Animal y Vegetal', project P131LH003033 for facilities. We acknowledge the assistance provided by Dr. P.M. Kirk and Drs. V. Robert and A. Decock through the Index Fungorum and MycoBank websites. Dr. Lorelei Norvell's editorial and Dr. Shaun Pennycook's nomenclatural reviews are greatly appreciated.

Literature cited

Castañeda-Ruiz, RF. 2005. Metodología en el estudio de los hongos anamorfos. 182-183, in: Anais do V Congresso Latino Americano de Micologia. Brasilia.

Castañeda-Ruiz RF, Kendrick, WB. 1991. Ninety-nine conidial fungi from Cuba and three from Canada. University of Waterloo Biology Series 35: 1-132.

Castañeda-Ruiz RF, Guarro J, Figueras MJ, Gene J, Cano, J. 1997. More conidial fungi from La Gomera, Canary Islands, Spain. Mycotaxon 65: 121-131.

Hoog, GS de. 1985. Taxonomy of the *Dactylaria* complex. IV. *Dactylaria*, *Neta*, *Subulispora* and *Scolecobasidium*. Studies in Mycology 26: 1-60.

Kirk, PM. 1986. New or interesting microfungi XV. Miscellaneous hyphomycetes from the British Isles. Transactions of the British Mycological Society 86: 409-428. http://dx.doi.org/10.1016/S0007-1536(86)80185-1

Ma YR, Xia JW, Zhang XG, Castañeda-Ruiz, RF. 2015. New species of *Phaeomonilia* and *Mirandina* from dead branches in China. Mycotaxon 130(3): 775-781. http://dx.doi.org/10.5248/130.775

Matsushima T. 1975. Icones microfungorum a Matsushima lectorum. Nippon Printing Co, Osaka.

Matsushima T. 1980. Saprophytic microfungi from Taiwan, part 1, hyphomycetes. Matsushima mycological memoirs no. 1. Matsushima Fungus Collection, Kobe, Japan.

Matsushima T. 1987. Matsushima mycological memoirs no. 5. Matsushima Fungus Collection, Kobe, Japan.

Matsushima K, Matsushima T. 1996. Fragmenta mycologica – II. Matsushima mycological memoirs no. 9: 31–40. Matsushima Fungus Collection, Kobe, Japan.

Paulus B, Gadek P, Hyde, KD. 2003. Two new species of *Dactylaria* (anamorphic fungi) from Australian rainforests and an update of species in *Dactylaria* sensu lato. Fungal Diversity 14: 143-156.